www.drivemedical.co.uk

Warranty Information

Drive Medical Volt Powerchairs are warranted for 12months (24 months frame) from the date of purchase on side frames and crossbars. (NB Batteries are warranted for 12 months.)

- During the warranty period any parts that have become defective due to faulty workmanship or material will be repaired or replaced without charge by Drive Medical supplier/dealer
- The warranty excludes tyres, punctures and items that become worn due to normal wear and tear such as upholstery and armrest pads
- The warranty excludes all items that have been subject to undue wear and tear and misuse
- Unauthorised changes or modifications will forfeit your warranty
- If a defect or fault is discovered, the Drive Medical supplier/dealer from whom the Wheelchair was purchased should be notified immediately

Limitation of Liability

The warranty does not extend to the consequential costs resulting from fault clearance, in particular freight and travel costs, loss of earnings, expenses, etc. The manufacturer will not accept responsibility for any damage or injury caused by misuse or non-observance of the instructions set out in this user manual.

Dealer Stamp

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Volt Powerchair

User Manual

Notes:

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Introduction

Welcome to the Drive Medical ***Volt*** Powerchair and thank you for choosing our product. This latest model has been designed with specific practical user needs in mind. It combines solid, rugged construction and high-tech electronics, safety and performance. We are confident that it will prove a reliable companion in your home as well as outdoors.

This manual contains some useful tips and information on safety, operation and maintenance. Please read it carefully to ensure that you get maximum enjoyment and benefit from your new independence and mobility.

Whenever you require special advice and attention do not hesitate to contact your local Drive Medical. He has all the equipment and know-how to provide an expert service and assistance on technical and clinical applications to suit your particular need.

Intended Us

The ***Volt*** Powerchairs are intended to assist and improve mobility for those individuals who are less able or have walking difficulties who wish to maintain their independence and freedom.

Your day to day activities will depend on your physical capabilities and your own specific circumstances. If in doubt seek medical advice first.

The information is this booklet provides a general guide on how to use your chair safely and correctly. Do not use the chair without reading this manual first.

Legal & General Responsibilities

As a Powerchair user you must be aware of the risks involved to both yourself and others. We recommend that you take out 'Third Party Liability' insurance to cover you against any possible claims. Advice and policies are available from general insurance companies or alternatively ask Drive Medical dealer/supplier for details.

Although by law you are not required to hold a driving licence you are responsible and fully liable for proper operation and use of your Powerchair. You must ensure that your chair is maintained and is in a good condition at all times.

INSTRUCTIONS FOR DISPOSAL

TO COMPLY WITH NATIONAL LAW, THE FOLLOWING INSTRUCTIONS ARE GUIDELINES FOR THE DISPOSAL OF YOUR PRODUCT AT THE END OF ITS LIFE OR WHEN IT CEASES TO FUNCTION ECONOMICALLY.
RECENT LEGISLATION ON ELECTRICAL EQUIPMENT INDICATES THAT THE EQUIPMENT MUST BE DISPOSED OF IN A PROPER MANNER.

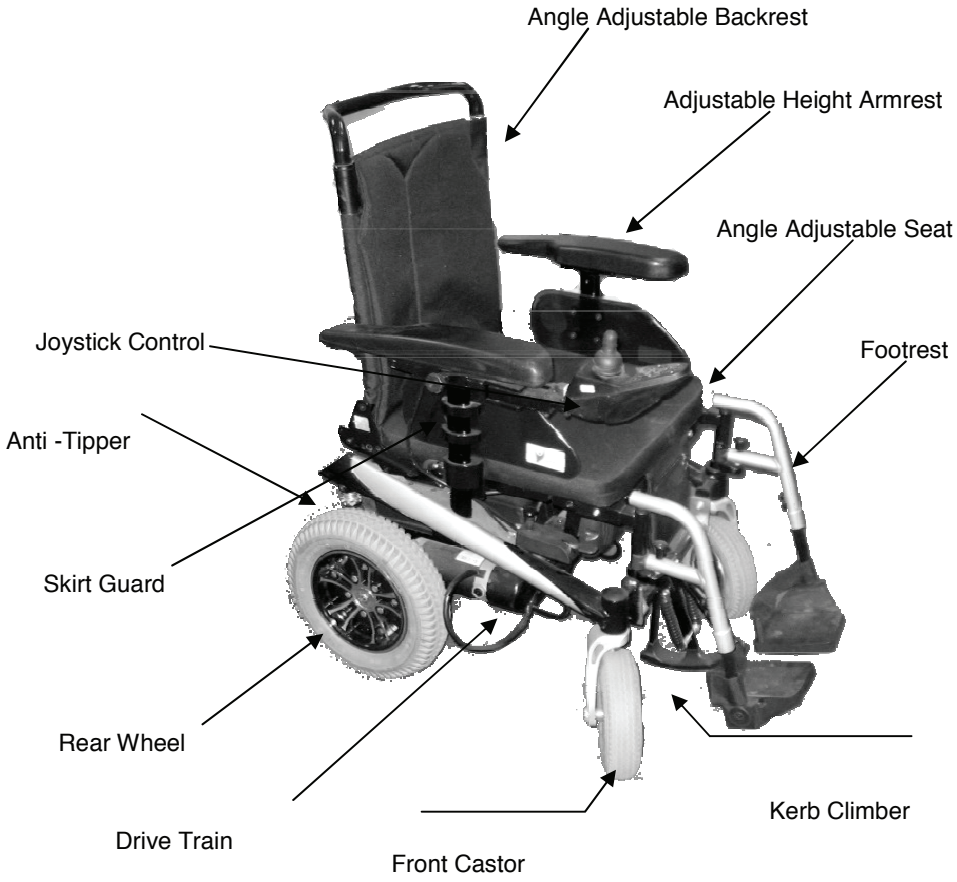
- THE PRODUCT AND /OR ITS COMPONENTS ARE NOT TO EN-TER THE SYSTEM OF LANDFILL SITES.
- THE PRODUCT AND/OR ITS COMPONENTS ARE NOT TO BE DIS-POSED OF IN DOMESTIC HOUSEHOLD WASTE.
- THE ELECTRICAL AND MATERIAL PARTS ARE TO BE DISPOSED OF AS SCRAP OR RECYCLING MATERIALS.
- LOCAL WASTE COLLECTION DEPOTS ARE AVAILABLE TO ADVISE AND DISPOSE OF ELECTRICAL PRODUCTS.
- BATTERIES WHICH CONTAIN LIQUID ACID MUST BE STORED AND DISPOSED OF SEPERATELY AT THESE DEPOTS.
- PLEASE ENQUIRE ABOUT DISPOSAL DEPOTS WITH YOUR LOCAL AUTHORITY.
- SHOULD YOU REQUIRE FURTHER ADVICE, PLEASE CONTACT YOUR SUPPLIER OR NEAREST DEALER.

TECHNICAL SPECIFICATIONS		
Classification	Class 'B' Indoor/Outdoor	
Seat width: adjustable from	40 cm to 50 cm	
Seat depth: adjustable from	39 cm to 46.5 cm	
Backrest height:	48 cm (with cushion), 53 cm (without cushion)	
Backrest angle:	90°-100°-1 10°-120°	
Tilt in space: from	0°to - 20°	
Overall dimensions:	60x1 10x104 cm	
Overall width:	60 cm	
Overall length with legrests:	100 cm (+10 cm anti-tip wheels)	
Overall length without legrests:	78 cm (+10 cm anti-tip wheels)	
Maximum height:	104 cm (62 cm with backrest dropped down)	
Distance seat to floor:	min 48 cm (without cushion)	
Weight capacity:	130 kg	
Wheelchair weight:	92 Kg (60 Kg without batteries)	
Range:	30/40 km	
Rear wheels:	solid 35 cm (13.5")	
Front wheels:	solid 22 cm (8.5")	
Motors:	2x 450 Watt	
Batteries:	2 x 50Ah	

Technical Description

The Drive Medical Volt Powerchair is a Class 'B' indoor/outdoor vehicle with a maximum carrying capacity of 130 kg (20 stone) which must never be exceeded. It has a maximum speed of 4 mph (6.5 km/h) and is classified as an 'Invalid Carriage' for use indoors, on pavements, footpaths, pedestrian zones and areas free from motor traffic. Use on the road or highway is not allowed except for the purpose of crossing.

Feature Guide



Safety Guidelines

- Do not use on the road, except when crossing between pavements. When crossing the carriageway of a public road always take extra care and observe the Highway code
- Do not turn off the controls by switching the ON/OFF button when moving at speed. This will bring the brakes on immediately and could cause damage to the controls
- Do not ride over deep, soft terrain (soft dirt, loose gravel, deep grass)
- Do not attempt to mount a kerb higher than specified
- Do not carry passengers
- Do not sit in your Powerchair if the unit is in freewheel mode
- We recommend that you do not sit on your Powerchair when in a vehicle, but transfer to a vehicle seat
- Always stop before making a sharp change of direction
- Always engage a slow speed when going down gradients
- Do not use the joystick in an erratic manner when going up or down an incline
- Do not drive in reverse down a slope or kerb
- Always keep your feet on the footplate when moving
- Do not stand on the footplate when getting in or out of the chair
- Do not expose the Powerchair to direct rain or high humidity (i.e. in the bath-room) as it may cause it to malfunction (electrically or mechanically)
- We recommend the use of safety belt
- Always keep your pneumatic tyres to the correct pressures
- Always make sure that the batteries are sufficiently charged before setting out on a journey
- Do not use parts, accessories or adapters other then those authorised by Drive Medical Ltd
- Keep the Powerchair away from children. It is not intended to be used as a toy
- The manual parking brakes are not designed for slowing-down

Troubleshooting Guide

The following information is intended to assist in the location of a fault that may occur in a certain part of your Powerchair's electronics. Go to the number in the list which matches the number of flashing bars and follow the instructions.

If the problem persists after you made the checks described below contact your dealer. Do not use the Powerchair and turn-off the power.

1 Bar	The battery needs charging or there is a bad connection to the battery. Check the connections to the battery. If the connections are good, try charging the battery
2 Bar	The left hand motor has a bad connection. Check the connections to the left hand motor
3 Bar	The left hand motor has a short circuit to a battery connection. Contact your service agent
4 Bar	The right hand motor has a bad connection. Check the connections to the right hand module
5 Bar	The right hand motor has a short circuit to a battery connection. Contact your dealer
6 Bar	The Powerchair is being prevented form driving by an external signal. The exact cause will depend on the type of Powerchair you have, one possibility is the battery charger is connected
7 Bar	A joystick fault is indicated. Make sure that the joystick is in the center position before switching on the control system
8 Bar	A control system fault is indicated. Make sure that all connections are secure
9 Bar	The parking brakes have a bad connection. Check the parking brake and motor connections. Make sure the control system connections are secure.
10 Bar	An excessive voltage has been applied to the control system. This is usually caused by a poor battery connection. Check the battery connections

Safety & Maintenance Inspection

We recommend that your Powerchair is serviced by your local dealer every six months. It is in your best interests, not only to ensure your personal safety but also to ensure long life and reliability. Regular service will identify early damage and worn components avoiding unnecessary faults occurring.

Weekly check that:

- Check all connectors are secure properly, properly mated and free from damage
- Castor bolts are tight and all fasteners are secure
- Adjustable height arms operate and lock securely
- The drive wheels mounting bolts are secure and there is no excessive side movement or binding when spun
- Tyres do not show excessive wear or damage
- Castors for proper tension, i.e. spinning castors should come to gradual stop

Monthly check that:

- Check joystick gator around the base of the joystick for damage or splitting
- Motor parking brakes function correctly
- The chair rolls straight (no excessive drag or pull to one side)
- Pivot points are free of wear or looseness
- Seat and backrest upholstery is not for ripped or sagging
- Frames are not worn or bent

Cleaning

Paintwork and plastic mouldings can be cleaned with a damp soft cloth of warm soapy water. Do not use any harsh abrasive cleaners, bleach base fluids or solvents.

Seat and back upholstery can be cleaned with a general purpose upholstery cleaner or sponged with warm soapy water.

Safe Operation

When using indoors beware of narrow doors, steps, high surfaces, protruding wall fittings and everyday household items such as children's toys, electrical appliances etc. Take extra care in kitchen environments.

To ensure stability and safe control you must maintain proper balance at all times. The Powerchair is designed to remain stable during normal use as long as you do not move you centre of gravity outside the normal seating position.

When reaching/bending forward do not lean your body out of the Powerchair further than the length of the armrests. Do not attempt to reach objects by sliding forwards to the edge of the seat.

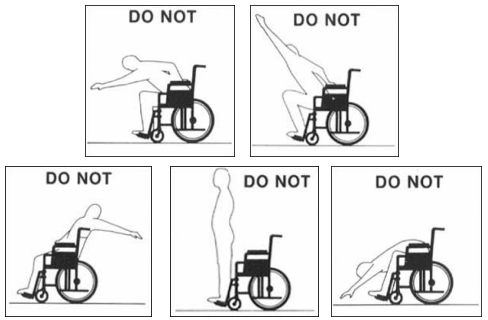
When reaching/bending backwards do not reach any further than your arm will extend without changing your seating position.

Never attempt to use an escalator or stairway, always use a lift.

Occasionally check that the adjustments of the footrests, armrests and controller are secure and are set in the most comfortable position for use.

We recommend the use of the safety belt provided with the chair.

Avoid use in rain, to avoid the possibility of water penetration into the electrically operated equipment.



Electromagnetic Interference

Powerchairs may be susceptible to electromagnetic interference (EMI) which is energy emitted from sources such as radio stations, TV stations, two-way radio, and cellular phones.

Avoid coming into close contact to them whilst the Powerchair is turned-on. Switch off immediately to avoid possible abnormal, erratic movement and control of your Powerchair.

Adjustment Procedures

Footrest Adjustments

Length

Using a suitable tool provided, remove the screws (arrowed),

Slide the footrest inner tube up or down to the required height and secure in place with the screws.

Note - The height adjustment screw must always be fitted securely fitted.

Posture Support (lap belt)

Belts that have been cut, frayed, damaged or stressed through impact should be replaced.

To clean use warm soapy water only. Do not use chemical cleaners, bleach or dye.

Contamination with petrol, grease and acid will be detrimental.

Periodic inspection of the installation will ensure reliable service of the belt.

CAUTION! -

- *The charger is for indoor use only*
- *Do not use an open flame whilst batteries are being charged*
- *Do not use the battery charger if it has been dropped or misused as damage to the electronics could occur*
- *Do not leave the charger plugged in the mains supply and switched-off. Always remove the plug*

Battery Gauge

The battery gauge works in the following way:

Located on the control box, the battery gauge has three colour bars:

When you switch on the control system, the battery gauge shows an estimate of the remaining battery charge.

If the battery shows red, yellow and green, the batteries are charged.

If the battery shows just red and yellow, then you should charge the batteries as soon as you can.

If the battery gauge shows just red, either steady or flashing slowly, then you should charge the batteries immediately.

At full charge all eight lights will be on. As the battery charge drops during Powerchair operation successive bars will extinguish. Except in emergency, do not drive on discharged batteries. If you ignore the warning (the bottom bars flashing) and the battery charge drops further to a level where there is no longer sufficient charge to allow safe driving, the controller will automatically cut the power supply to the motors and the power chair will come to abrupt stop.

Batteries & Battery Charging

Batteries

The Powerchair is supplied with two sealed deep cycle, maintenance free batteries. These are fitted under the seat in the centre of the Powerchair. For easy handling, Carrying straps are provided to assist in fitting or removal.

These batteries are different from ordinary car batteries and should be charged with the charger specifically for this type and make of battery.

CAUTION! - *Using incorrect battery size and/or voltage may cause damage to the Powerchair and have an adverse effect on the performance specifications.*

To ensure long battery life, do not allow the batteries to become totally discharged. If the Powerchair is not used for a length of time the batteries must receive a full charge once a month and remain fully charged during storage.

Battery charging

The battery charger supplied with your Powerchair is fitted with an automatic electronic switch that terminates the charge when the batteries are fully charged.

To avoid reducing battery life always fully charge new batteries before initial use. Please note that the batteries will not perform to their peak until first six to ten charging cycles have been completed.

The front panel of the battery charger has two lights - red and green. Steady red light indicates that charger is on from the mains and is ready to charge. Flickering red light signifies incorrect or bad connection. The other light is yellow/orange when charging, which turns to green when charging is complete.

To re-charge the batteries, connect one end of the battery charger power cord to the charging socket and the other end to a 3-pin grounded wall outlet and switch on at the mains.

Do not switch off or interrupt the charging cycle before charging is complete (typically from 8 to 12 hours depending on depth of discharge).

When charging is complete always disconnect from the main supply first followed by unplugging the charger from the chair.

The charger also has its own ON/OFF switch located in the opposite end to the two-way display lights. Ensure this is switched on to charge your batteries.

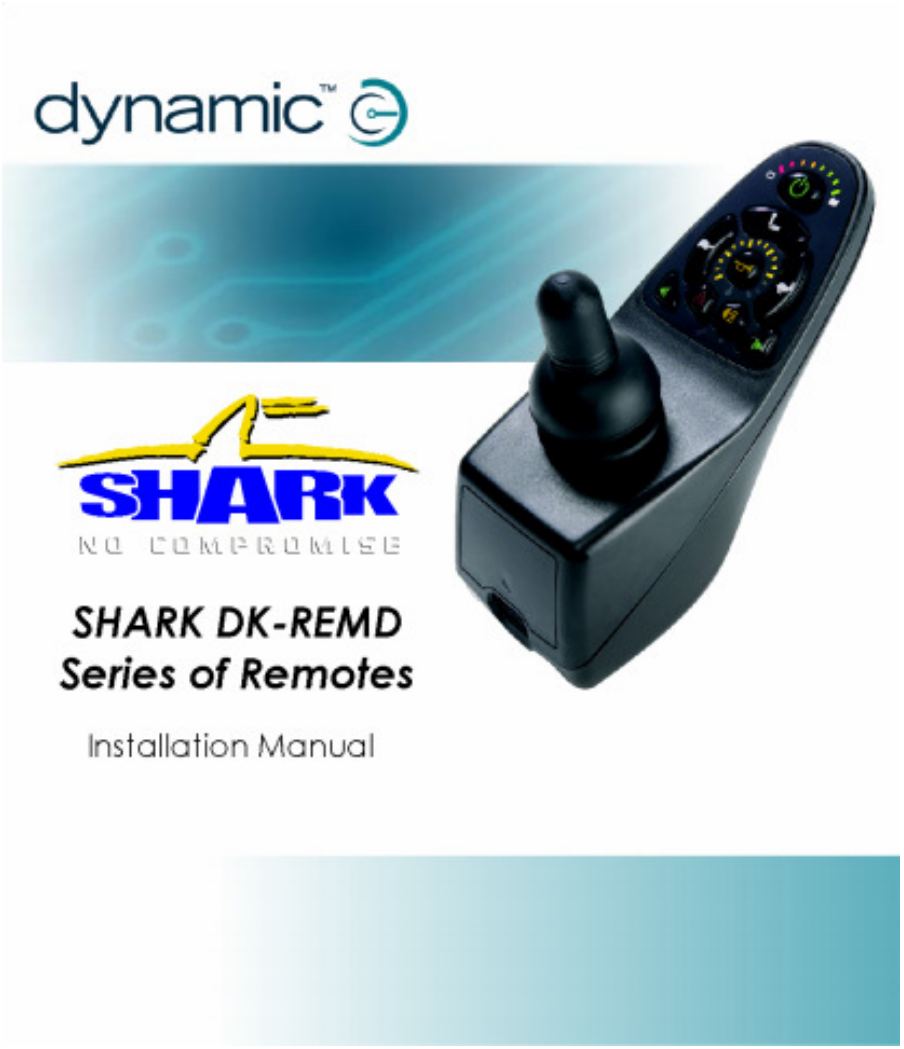
Joy Stick Adjustment

The Joy Stick can be adjusted so that it is in a convenient position for use. To adjust the unit forward and backwards immediate underneath the armrest pad there is a hand knob which when loosened allows the horizontal tube to be adjusted to the required position.

To adjust the unit vertically, there is a hexagon key screw in a hexagon nut attached to the tubular construction supporting the Joy Stick. Using the hexagon key provided loosen the screw, adjust unit to the required height and re-tighten screw to secure.

Joy Stick conversions to left hand

1) Remove Joy Stick and horizontal tube from right hand arm by releasing hand knob and hexagon screw
2) Remove the two screws holding the support tube to the Joy Stick and rotate the tube through 180° to the opposite side and secure to the Joy Stick with the screws
3) Remove both armrest pads by removing the securing hand knobs. Both pads are right and left handed
4) To convert to opposite hands remove support brackets from pads and rotate through 180° and align with opposite screw holes and re-secure with screws
5) Secure the original right hand armrest to the left hand arm and repeat for the other hand
6) Re-position Joy Stick unit to left hand side of chair and assemble and secure to left hand arm
7) Adjust heights and position as previous paragraphs



Transportation

We recommend that you do not sit on your Powerchair when in a vehicle, but transfer to a vehicle seat. A Powerchair secured in a vehicle will not provide the equivalent safety level and security as the vehicle's seating systems.

However, when transfer is not practical or impossible, ensure the following:

1) Check that the vehicle is suitably designed, insured and equipped to transport a passenger seated in a Wheelchair
2) Remove any part of the Wheelchair (accessories, etc.) that can be easily detached and store it in the vehicle's luggage hold
3) Make sure the Wheelchair is transported in a forward facing direction. Rearward facing is only acceptable if the passenger's head and back can be supported by a suitable bulkhead
4) Use the buckle seat belt (if fitted) with your chair as additional restraint

We recommend that the powerchair is secured within the vehicle using the 4-point webbing tie-down system with Karibiner, model no WWR/ATF/K/R (available from Unwin Safety Systems based in Yeovil, U.K.)

Note: Although safety during transportation largely depends upon the diligence of the person securing the tie-downs and passenger restraints it is the user's responsibility to ensure that the powerchair has been safely secured.

Freewheel Operation

To push the Powerchair by hand or in the event of a fault or battery failure the motors/gear boxes can be released allowing the Powerchair to be pushed.

The lever hould be switched to the freewheel position As shown in picture 2

(2) Freewheel
Lift red lever up

(2) Freewheel
Engaged mode

(1) Drive mode
Pull black
lever up

(1) Drive Engaged
mode

CAUTION! - *Always re-engage the freewheeling device after use. Failure to do so may result in injury*

Wheels and Tyres

Regularly check the condition of front and rear tyres for wear and tear. Contact your supplier for replacements. Your Powerchair may have split rim wheels which are held together by screws or bolts. When these are removed the wheel rim separates for easy access to carry out puncture repairs or tyre replacements.

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SHARK

2.1 The DK-REMD Remotes

Please refer to Shark user guide for full instructions at the end of this user guide.

Footrests

Adjustment Procedures

Swing-away Footrest

Length Adjustment

Adjustments are made with the user sitting in the wheelchair with feet on footplates.

1) Use a spanner to loosen the bolt at the rear of the footrest support hanger.

2) Adjust the footplate up or down as needed to provide maximum support of thighs on the seat upholstery, then re-tighten the bolt.

WARNING!

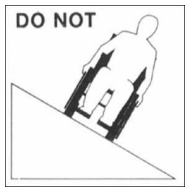
Ensure that desired front rigging adjustment does not cause pressure to legs at front of seat upholstery.

Folding Back

This is available to reduce the overall height of the chair. Whilst at the rear of the chair, grip the small lever and push down to release pin allowing the handle section to be folded.

Negotiating Inclines

The Powerchair has climbing power that enables you to overcome gradients of up to 12° (1:5).



Always approach an incline directly, not at an angle, and follow it up or down directly avoiding zigzag movement.

CAUTION! - *Never attempt to climb or descend an incline which has a slippery or icy surface.*

While going uphill or downhill there is no need for drastic corrective joystick movements. The electronic controller ensures that the extra power required for climbing is automatically applied to the motors, so that the selected speed is maintained. This is achieved by the micro-computer of the electronic controller compensating automatically for any extra power required.

The same applies when you travel downhill. The electromagnetic safety brake gives you full control over your Powerchair at all times. This unique brake system enables you to descend at a constant slow speed.

You can stop at any time while you are climbing or descending. Simply release the joy-stick as on the flat. The electromagnetic safety brake will ensure that the Powerchair is positively locked and secured in parking position until you are ready to continue your journey.

Anti Tippers

These are fitted at the rear of the chair, adjacent to the rear drive wheels and must be fitted at all times when driving outdoors. Especially when climbing kerbs and gradients.

Kerb Climber (Std)

This is attached at the front of the chair from one side frame to the other. The centre climbing shoe is set at 10 mm clearance and is designed to lift the front of the chair over a kerb higher than this as you drive forward, returning to its original position due to its spring action.

Approach the kerb head-on slowly. Shortly before the front wheels make contact with the kerb push the joystick fully forward for maximum power.

Do not allow the power chair to come to a halt midway through manoeuvre. If possible, use gentle upper body movement to assist motion.

CAUTION! - *Ensure all wheels have mounted the kerb before changing direction.*

When climbing kerbs you will find that your Powerchair will smoothly overcome the kerb without the need for drastic speed variations.

Transferring to and from the chair (Ensure chair is switched off)

Circumstances and individual needs will vary from person to person, but if there are difficulties we advise you to consult your therapeutic adviser who will help to develop your skill for appropriate transfer method that suit your individual requirements.

During transfer always make sure that the brakes are in a locked position and the Powerchair is manoeuvred as close as possible to the transfer seat .

Circuit Breaker

If your chair stops for no apparent reason, it is probably due to the circuit breaker. The circuit breaker can be located on the top of each battery box.. On rare occasions, it happens that there is a temporary overload on the electric circuit. If this occurs, the circuit breaker button will pop out. To reset, turn the key to the OFF position, press circuit breaker button and then turn the key to the ON position.